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March 8, 2013

Ms. Jackie Drummond
North Carolina Department of Environment and Natural Resources
Division of Waste Management, Solid Waste Section
1646 Mail Service Center
Raleigh, North Carolina 27699-1646



**RE: Landfill Gas Monitoring Report
First Quarter Sampling Event of 2013
Granville County – Butner Closed MSW Landfill, Permit No. 39-02
JOYCE Project No. 660.1201.12, Task No. 06**

Dear Ms. Drummond:

Attached please find the Landfill Gas Monitoring Log, Gas Probe Location Map, and EMRF for the monitoring event that occurred on March 6, 2013 at the Granville County Butner Landfill (Permit number 39-02) for inclusion in your records. Methane was detected above the LEL in GP-2 so MW-5 was monitored and no methane was detected; therefore, methane does not appear to have migrated to the facility boundary.

Landfill gas monitoring will continue on a quarterly basis for the Butner Landfill. If you have any questions, please contact me or Dan Girdner at (336) 323-0092. Thank you.

Sincerely,
JOYCE ENGINEERING

Van Burbach, Ph.D., P.G.
Technical Consultant

Attachments

Copy: Jason Falls, Granville County

DENR USE ONLY:

☐ Paper Report☐ Electronic Data - Email CD (data loaded: Yes / No)

Doc/Event #:

NC DENR

Division of Waste Management - Solid Waste

Environmental Monitoring Reporting Form

Notice: This form and any information attached to it are "Public Records" as defined in NC General Statute 132-1. As such, these documents are available for inspection and examination by any person upon request (NC General Statute 132-6).

- Instructions:**
- **Prepare one form for each individually monitored unit.**
 - **Please type or print legibly.**
 - Attach a notification table with values that attain or exceed NC 2L groundwater standards or NC 2B surface water standards. The notification must include a preliminary analysis of the cause and significance of each value. (e.g. naturally occurring, off-site source, pre-existing condition, etc.).
 - Attach a notification table of any groundwater or surface water values that equal or exceed the reporting limits.
 - Attach a notification table of any methane gas values that attain or exceed explosive gas levels. This includes any structures on or nearby the facility (NCAC 13B .1629 (4)(a)(i)).
 - Send the original signed and sealed form, any tables, and Electronic Data Deliverable to: Compliance Unit, NCDENR-DWM, Solid Waste Section, 1646 Mail Service Center, Raleigh, NC 27699-1646.

Solid Waste Monitoring Data Submittal Information

Name of entity submitting data (laboratory, consultant, facility owner):

Joyce Engineering, Inc.

Contact for questions about data formatting. Include data preparer's name, telephone number and E-mail address:

Name: G. Van Ness Burbach, Ph.D., P.G. Phone: (336) 323-0092

E-mail: vburbach@joyceengineering.com

Facility name:	Facility Address:	Facility Permit #	NC Landfill Rule: (.0500 or .1600)	Actual sampling dates (e.g., October 20-24, 2006)
Butner Landfill	State Road 1004 Butner, NC	39-02	.1600	March 6, 2013

Environmental Status: (Check all that apply)

☐ Initial/Background Monitoring☒ Detection Monitoring☒ Assessment Monitoring☐ Corrective Action

Type of data submitted: (Check all that apply)

☐ Groundwater monitoring data from monitoring wells☒ Methane gas monitoring data

☐ Groundwater monitoring data from private water supply wells☐ Corrective action data (specify)

☐ Leachate monitoring data☐ Other(specify)

☐ Surface water monitoring data

Notification attached?

☐ No. No groundwater or surface water standards were exceeded.

☐ Yes, a notification of values exceeding a groundwater or surface water standard is attached. It includes a list of groundwater and surface water monitoring points, dates, analytical values, NC 2L groundwater standard, NC 2B surface water standard or NC Solid Waste GWPS and preliminary analysis of the cause and significance of any concentration.

☒ Yes, a notification of values exceeding an explosive methane gas limit is attached. It includes the methane monitoring points, dates, sample values and explosive methane gas limits.

Certification

To the best of my knowledge, the information reported and statements made on this data submittal and attachments are true and correct. Furthermore, I have attached complete notification of any sampling values meeting or exceeding groundwater standards or explosive gas levels, and a preliminary analysis of the cause and significance of concentrations exceeding groundwater standards. I am aware that there are significant penalties for making any false statement, representation, or certification including the possibility of a fine and imprisonment.

G. VanNess Burbach, Ph.D., PGTechnical Consultant(336) 323-0092

Facility Representative Name (Print)Title(Area Code) Telephone Number

SignatureDate

2211 W. Meadowview Rd., Ste. 101 Greensboro, NC 27407

Facility Representative Address

C-0782

NC PE Firm License Number (if applicable effective May 1, 2009)

Revised 6/2009

Affix NC Licensed Professional Geologist Seal

Landfill Gas Monitoring Data Log

Facility Name:
Date of Sampling:
Gas Monitor Type & Serial Number:
Field Calibration Date & Time:
General Weather Conditions:

Butner Landfill, Granville County
03/06/13
GEM 2NAV GM13915/11
3/6/2013 13:20
Cloudy, 50° F, recent rain

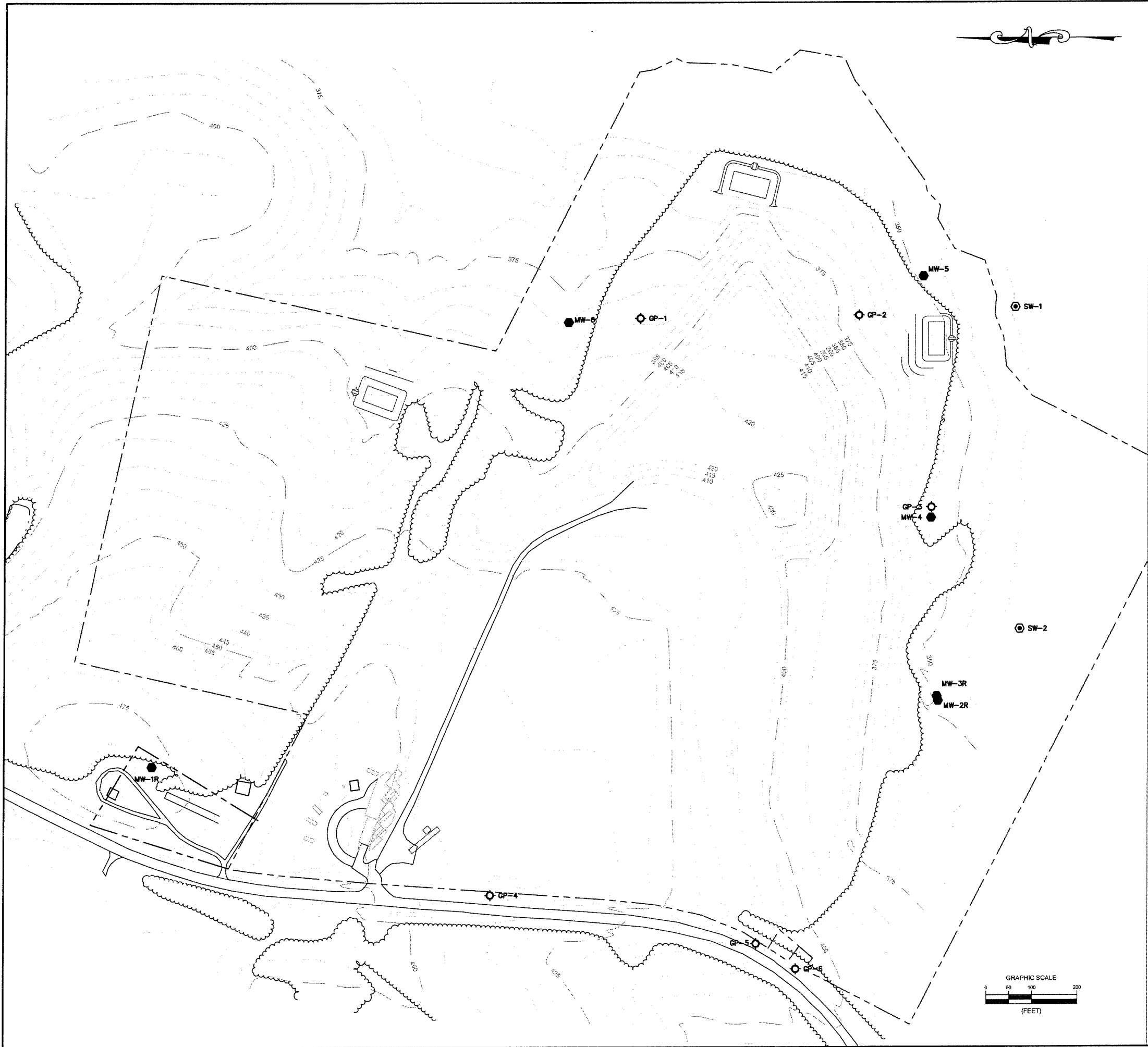
Permit Number:
Personnel:
Calibration Date:
Calibration Gas Type:
Barometer :

39-02
D. Girdner/ JOYCE
01/07/13
15% CH4, exp. 5-2013
29.23 In-Hg

Location or LFG Well ID	Instr. purged	Time	Probe Pressure (InWg)	Time Pumped (sec.)	CH ₄ (%Vol)	CH ₄ (%LEL)	%LEL Limit	Notes
GP-1	Y	1611	0.00	60	0.0	0	100	approx. 150 ft. SE of GP-2 toward property line
GP-2	Y	1608	0.07	60	5.2	104	104	
GP-2A (MW-5)	Y	1540	0.04	60	0.0	0	100	
GP-3	Y	1515	0.05	60	0.0	0	100	
GP-4	Y	1520	-	60	0.2	4	100	
GP-5	Y	1525	-	60	0.0	0	100	
GP-6	Y	1505	0.13	60	0.0	0	100	
GP-8 (Scalehouse)	Y	1615	-	continuous	0.0	0	25	

Abbreviations:

LEL= Lower Explosive Limit
N/A = not applicable
In Wg = inches of water column
GP = Gas Monitoring Probe



LEGEND

— 150 — EXISTING 25' TOPOGRAPHIC CONTOUR
- - - - - EXISTING 5' TOPOGRAPHIC CONTOUR
- - - - - PROPERTY LINE
- - - - - APPROXIMATE LIMITS OF WASTE
380 — — — — — GROUNDWATER SURFACE CONTOUR (FEET ABOVE MEAN SEA LEVEL)
- - - - - EXISTING ROAD
- - - - - CENTERLINE OF STREAM
● MW-1R GROUNDWATER MONITORING WELL LOCATION AND IDENTIFICATION
⊙ GP-1 GAS PROBE LOCATION AND IDENTIFICATION
⊙ SW-1 SURFACE WATER MONITORING POINT
(NM) NOT MEASURED

- NOTES**
1. TOPOGRAPHIC CONTOUR INTERVAL = 5 FEET
 2. ELEVATION RELATIVE TO MEAN SEA LEVEL.
 3. TOPOGRAPHIC CONTOURS SHOWN IN THIS MAP ARE BASED ON EARLIER SURVEY DATA AND DIFFER FROM THE APRIL 2008 DATA BY SEVERAL FEET IN SOME LOCATIONS.

DESIGNED DRAWN CHECKED APPROVED DATE		DSG HRW DSG DSG 12/13/12	© 2012 Joyce Engineering, Inc. All rights reserved.
JOYCE ENGINEERING 2211 W. MEADOWVIEW ROAD GREENSBORO, NC 27407 PHONE: (336) 323-6082			
BUTNER LANDFILL GRANVILLE COUNTY, NORTH CAROLINA			
QUARTERLY LFG MONITORING LOCATIONS			
PROJECT NO. 660.1201.12			
SCALE AS NOTED			
DRAWING NO. 1			
REVISIONS AND RECORD OF ISSUE		NO. BY CK APP	
DATE			